RightRisk™

HOW MUCH RISK IS RIGHT FOR YOU?

Scenario Guide (December 2007) #SG-07-07

Mountain View Farms

D. Hoag , J. Parsons, K. Olson

Mountain View Farms is representative of dryland grain farming operations in the high rainfall areas of Southeastern Idaho. Production practices, costs of production, market prices, weather patterns, and other information used here are based on data from the region in order to provide a realistic setting. The probabilities of risk events and impacts were also calculated using actual data, however slight modifications were sometimes made to maintain the workability and realism of the game.

Mountain View Farms operates 2,000 acres, with 500 acres of contract barley, 300 acres of open market feed barley and 1,200 acres of spring wheat. Normal annual yield is 47 bushels per acre for malt barley, 50 bushels per acre for feed barley, and 40 bushels per acre for wheat. Operating costs, including tillage, planting, pesticides, fertilization and harvest are $105 per acre harvested for both malt and feed barley and $118 for wheat. When you begin the simulation, there is no grain in inventory. This will also be the case at the end of the simulation as all grains will be sold before calculating your final bank balance. The initial cash market price for malt barley is $2.89 per bushel; feed barley is $2.35 per bushel; and wheat is $3.35 per bushel.

Malt Barley Production

Total Crop Land	500 acres
Normal Annual Yield	47 bushels/acre
Production Costs	$105 per acre
Initial Market Price	$2.89 per bushel

Feed Barley Production

Total Crop Land	300 acres
Normal Annual Yield	50 bushels/acre
Production Costs	$105 per acre
Initial Market Price	$2.35 per bushel

Wheat Production

Total Crop Land	1200 acres
Normal Annual Yield	40 bushels/acre
Production Costs	$118 per acre
Initial Market Price	$4.50 per bushel

Mountain View Farms also runs100 mother beef cows with annual production costs of $360 per cow. Calving typically occurs in March-April and weaned calves are sold in October. The Mountain View Farms historically has a 95 percent weaning percentage and replace 15 percent of their cows. This leaves 80 calves (100%-5%-15%) to sell, weighing 500 pounds (for steers and heifers, alike). Cull cows weighing 1,100 pounds are sold at the end of each year for $45.00 per hundredweight or $495 per head. The simulation begins with an initial market price for weaned calves at $95 per hundredweight.

Beef Cattle Production

Quantity	100 head
Production costs per unit	$360 per cow
Weaning Percentage	95%
Average Net Sale Weight	500 pounds per weaned calf
Initial Market Price	$95.00 per hundredweight
Replacement percentage	15%
Sale price per cull unit	$495.00 per cow

Mountain View Farms expects to sell 48,000 bushels of wheat, 23,500 bushels of malt barley, 15,000 bushels of feed barley, 80 weaned calves, and 15 cull cows on an annual basis. Including an annual government payment of $52,920, this will generate $417,790 in revenues each year. Mountain View Farms will have $141,600 in expenses for producing 1200 acres of wheat, $52,500 in expenses for producing 500 acres of malt barley, and $31,500 in expenses for producing 300 acres of feed barley. They will also have $36,000 of expenses for the cow herd. Mountain View Farms expects to generate $155,890 of profits each year or $311,780 over the two years in the simulation.

Expected Annual Net Farm Income

Expected Revenues			Expected Expenses		
Weaned Calves	80 head =	$38,000	Wheat	1200 acres =	$141,600
Cull Cows	15 head =	$7,425	Malt Barley	500 acres =	$52,500
Malt Barley	23,500 bushels =	$67,915	Feed Barley	300 acres =	$31,500
Feed Barley	15,000 bushels =	$35,250	Cows	100 cows =	$36,000
Wheat	48,000 bushels =	$216,000			
Government Payment		$52,900			
Annual total:		$417,490	Annual total:		$261,600

Gross Profit = $155,890 per year

DECISIONS

Year 1

Period 1	Risk and Probability of Occurrence	Impact
Jan. 1 to Mar. 31	Winter Conditions Severe Winter (20%) Normal Winter (60%) Mild Winter (20%) Global Crop Production Reports High Wheat and Corn Numbers (10%) Normal Wheat, High Corn Numbers (30%) Normal Wheat and Corn Numbers (50%) Low Wheat and Corn Numbers (10%)	• In severe winters, weaning percentages decrease due to increased death losses. • In a normal winter, prices move in a seasonal pattern. • In mild winters, weaning percentages increase due to decreased death losses. • High global production numbers will decrease crop prices and increase livestock prices. • Low global production numbers will increase crop prices and decrease livestock prices.
	Risk Management Strategy Decisions	
	Decision 1: Buy Barley Insurance You can choose among six different insurance options for your barley crop including the opportunity to purchase the Option B endorsement for your malt barley crop. Decision 2: Buy Wheat Insurance You can choose among five different insurance options for your wheat crop.	
Period 2	**Risk and Probability of Occurrence**	**Impact**
Apr. 1 to Jun. 30	Risk of Late Freeze Late Freeze (12%) No Late Freeze (88%) Barley Condition Report Poor Crop Conditions (17%) Average Crop Conditions (66%) Excellent Crop Conditions (17%)	• A late freeze is a local weather condition that can severely impact your yield and have a moderate impact on prices. • The crop condition report is a national report. • Poor crop conditions will increase crop prices and decrease livestock prices. • Excellent crop conditions will decrease crop prices and increase livestock prices.
	Risk Management Strategy Decisions	
	Decision 1: Forward Price Wheat Forward price any quantity of wheat you would like for harvest delivery at the current contract price. Any forward priced wheat must be delivered at harvest. If you forward contract more than you produce, you will purchase what you need at current prices to fulfill the contract. Decision 2: Forward Price Feed Barley Forward price any quantity of feed barley you would like for harvest delivery at the current contract price. Decision 3: Forward Price Calves Forward price any number of head you would like for October delivery at the current contract price. All non-contracted calves will be sold in October on the cash market.	

Period 3	Risk and Probability of Occurrence	Impact
Jul. 1 to Sep. 30	Risk of Late Hail Severe Hail (6%) Scattered Hail damage (17%) No Hail (77%) ..... National Export News Good Export Numbers (15%) Mixed Export Numbers (30%) Average Export Numbers (40%) Poor Export Numbers (15%)	• Hail is a local weather condition that can severely impact crop yield with a very mild affect on prices. ..... • Better than expected export numbers can have a positive influence on prices. • Poor export numbers will have a negative influence on prices. • Price seasonality trends downward.
	Risk Management Strategy Decisions	
	Decision 1: Forward Price Wheat Forward price any quantity of wheat you would like for harvest delivery at the current contract price. Decision 2: Forward Price Feed Barley Forward price any quantity of feed barley you would like for harvest delivery at the current contract price. Decision 3: Forward Price Calves Forward price any number of head you would like for October delivery at the current contract price.	
Period 4	**Risk and Probability of Occurrence**	**Impact**
Oct. 1 to Dec. 31	U.S. Planted Wheat Acres Report > 75 million acres (25%) 70-75 million acres (50%) < 70 million acres (25%) ..... U.S. Corn Production Record High (20%) Above Average (55%) Average (20%) Below Average (5%)	• A high number of acres planted to wheat will decrease prices for wheat in anticipation of increases in future supply. • Crop prices increase due to normal market price seasonality. • A low number of acres planted to wheat will increase prices for wheat in anticipation of decreases in future supply. ..... • Crop prices decrease and livestock prices increase when production of a competitive feed alternative (corn) increases. • Seasonal effects occur when corn production is as expected. • Crop prices increase and livestock prices decrease if corn production falls below expected levels.
	Risk Management Strategy Decisions	
	Decision 1: Sell Wheat You can sell wheat in inventory at the current cash price. Decision 2: Sell Barley You can sell barley in inventory at the current cash price. Decision 3: Cross Hedge Barley You can cross hedge barley in inventory by using the corn market.	

Year 2

Period 5	Risk and Probability of Occurrence	Impact
Jan. 1 to Mar. 31	Same as Year 1.	Same as Year 1.
	Risk Management Strategy Decisions	
	Decision 1: Buy Barley Insurance Decision 2: Buy Wheat Insurance	
Period 6	**Risk and Probability of Occurrence**	**Impact**
Apr. 1 to Jun. 30	Precipitation Risk Good Precipitation (12%) Average Precipitation (69%) Poor Precipitation (15%) Too Much Precipitation (4%) ..... Barley Condition Report Poor Crop Conditions (17%) Average Crop Conditions (66%) Excellent Crop Conditions (17%)	• Good precipitation will have a positive impact on crop yields and a negative impact on prices. • Poor precipitation will have a negative impact on crop yields and a positive impact on prices. • Too much precipitation causes diseases and crop losses. ..... • Same as Year 1.

Period 6	Risk Management Strategy Decisions	
Apr. 1 to Jun. 30	Decision 1: Forward Price Wheat Decision 2: Forward Price Feed Barley Decision 3: Forward Price Calves	
Period 7	**Risk and Probability of Occurrence**	**Impact**
Jul. 1 to Sep. 30	Same as Year 1.	Same as Year 1.
	Risk Management Strategy Decisions	
	Decision 1: Forward Price Wheat Decision 2: Forward Price Feed Barley Decision 3: Forward Price Calves	
Period 8	**Risk and Probability of Occurrence**	**Impact**
Oct. 1 to Dec. 31	Same as Year 1.	Same as Year 1.
	Risk Management Strategy Decisions	
	Decision 1: Sell Wheat Decision 2: Sell Barley Decision 3: Cross Hedge Barley	
Game End	Barley, wheat, and calf inventories are automatically adjusted to zero by selling (or buying) at the ending cash price.	

http://www.rightrisk.org

RightRisk™ is an innovative risk research and education program. It uses real world farm and ranch settings and agricultural economics to help you understand and explore risk management decisions and evaluate the effects of those decisions. You will learn about your personal risk management style and build your decision-making skills.

RightRisk™ is not only a simulation model. You will have on-going access to agricultural economists with expertise in risk management. The RightRisk™ Education Team consists of a team of researchers and extension specialists from several Western states including Arizona, Colorado, Idaho, Montana, Nebraska, Nevada, Utah, Washington, and Wyoming.

For more information about RightRisk™ , please visit our website. There you can learn more about RightRisk™ , about risk and managing risks, how to contact resource people, and where and when up-coming RightRisk™ meetings will be held. Also, you can play RightRisk™ online!

Funding partners:

RightRisk™ programs are available to all without discrimination. No endorsement of products mentioned is intended nor is criticism implied of products not mentioned.